ST-JX205L/JX220L

SERVICE MANUAL

AEP Model
UK Model

ST-JX205L (Silver Type)

Note: ST-JX205L is an FM stereo LW/MW tuner unit in SEN-205.

ST-JX220L (Black Type)

SPECIFICATIONS

FM tuner section

Tuning range	87.5 – 108 MHz
Antenna terminals	75 ohms unbalanced 300 ohms balanced
Intermediate frequency	10.7 MHz

	(at 40 kHz deviation)
Sensitivity	at 46 dB quieting 17.3dBf, 4μV (mono) 38.3 dBf, 45μV (stereo)
Usable sensitivity	10.3 dBf, 1.8μV (IHF) 1.7μV (S/N = 26 dB)
Signal-to-noise ratio	ST-JX205L: 74 dB (mono) 69 dB (stereo) ST-JX220L: 76 dB (mono) 71 dB (stereo)
Harmonic distortion at 1 kHz	AEP, UK model 0.2% (mono) 0.4% (stereo) G-AEP model 0.3% (mono) 0.5% (stereo)
Separation at 1 kHz	45 dB
Frequency response	40 Hz – 12.5 kHz ±0.5 dB 30 Hz – 15 kHz $^{+0.5}_{-2.0}$ dB
Selectivity	at 400 kHz 55 dB (AEP, UK model) 80 dB (G-AEP model)
Image response ratio	50 dB (AEP, UK model) 80 dB (G-AEP model)
IF rejection ratio	90 dB

Capture ratio	1.0 dB
AM suppression ratio	54 dB
Spurious response ratio	70 dB
RF intermodulation	60 dB (IHF)
Output level/impedance at 75 kHz deviation	750 mV, 3.3 kilohms

AM (MW/LW) tuner section

		MW	LW
Tuning range		531 – 1,602 kHz (9 kHz step)	153 – 344 kHz
Antenna		Layout-free AM antenna, External antenna terminal	
Intermediate frequency		450 kHz	
Usable sensitivity	Layout-free AM antenna	300μV/m (999 kHz)	700μV/m (230 kHz)
	External antenna	30μV (999 kHz)	200μV (230 kHz)
Signal-to-noise ratio (50 mV/m)		54 dB	
Harmonic distortion (50 mV/m, 400 Hz)		0.3%	
Selectivity		35 dB (9 kHz)	

– Continued on page 2 –

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MICROFILM

FM STEREO/FM-AM TUNER

SONY®

AUD

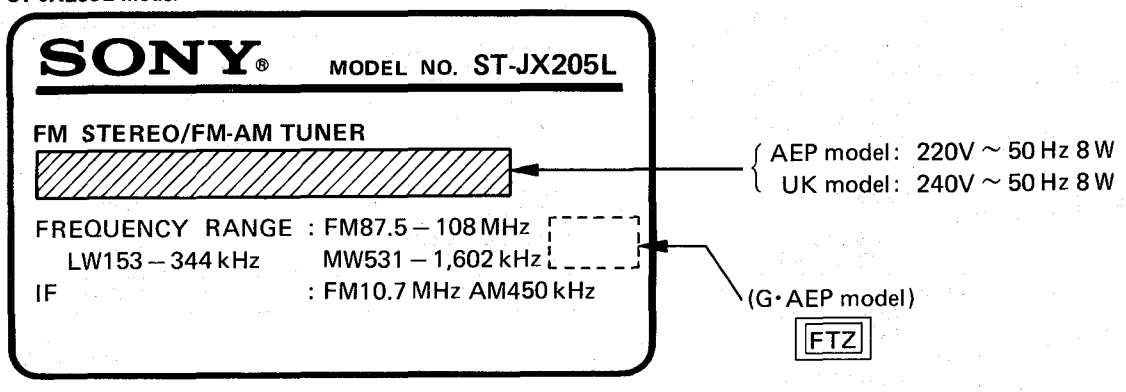
General

System	FM stereo, FM/AM superheterodyne tuner Quartz-locked digital synthesizer system
Power requirements	ST-JX220L: AEP, G-AEP model: Operates on 220V ac, 50 Hz UK model: Operates on 240V ac, 50 Hz E model: Operates on 120, 220 or 240V ac, 50/60 Hz adjustable ST-JX205L: Taken from POWER AMPLIFIER TA-AX205.
Power consumption	ST-JX220L: 8 watts ST-JX205L: Taken from POWER AMPLIFIER TA-AX205.
Dimensions	Approx. 430 x 55 x 255 mm (w/h/d) (17 x 2 1/4 x 10 1/8 inches) including projecting parts and controls
Weight	ST-JX220L: AEP model: 2 kg (5 lbs 2 oz) UK, E model: 2.4 kg (5 lbs 5 oz) ST-JX205L: 2 kg (5 lbs 2 oz)

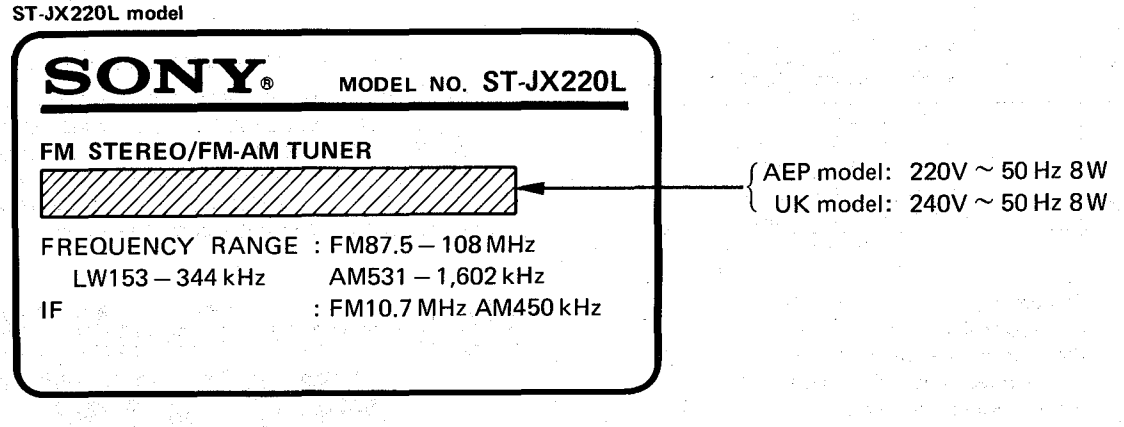
MODEL IDENTIFICATION

–Specification Label–

ST-JX205L model


SONY®
MODEL NO. ST-JX205L
FM STEREO/FM-AM TUNER
FREQUENCY RANGE : FM87.5 – 108 MHz
LW153 – 344 kHz MW531 – 1,602 kHz
IF : FM10.7 MHz AM450 kHz
AEP model: 220V ~ 50 Hz 8 W
UK model: 240V ~ 50 Hz 8 W
(G·AEP model)
FTZ

ST-JX220L model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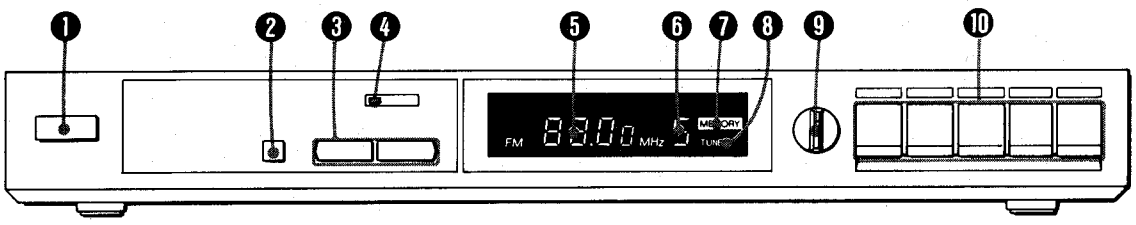
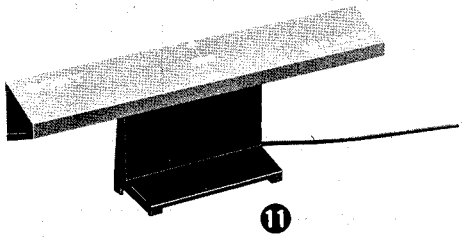
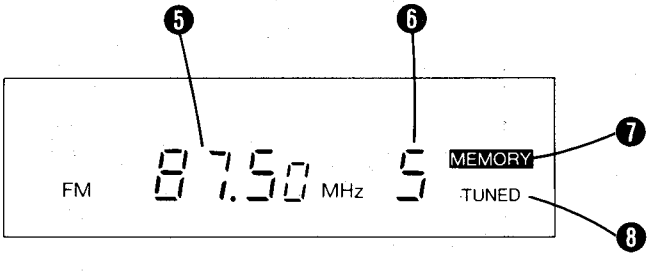
LW153 – 344 kHz AM531 – 1,602 kHz
IF : FM10.7 MHz AM450 kHz
AEP model: 220V ~ 50 Hz 8 W
UK model: 240V ~ 50 Hz 8 W

FUNCTION OF CONTROLS







❶ POWER switch

❷ MEMORY switch
Press to operate memory circuit. The MEMORY indicator will appear in the display window for a few seconds indicating that the memory circuit is standing by.

❸ TUNING buttons
Press either button to change the frequency. Press the left button (-) to go to a lower frequency and the right button (+) to go to a higher. To change the frequency continuously until the desired frequency is received, keep the button pressed. The frequency figures will change rapidly. To change the frequency slowly, successively press and immediately release the button.

❹ STEREO indicator
This indicator will light when an FM stereo program of sufficient signal strength is tuned in.

❺ Band/frequency-display
Permits reading the received frequency at a glance from the figures.

❻ Station preset button indicator
When the station PRESET button is pressed, a figure from 1 to 5 corresponding to the pressed button will appear.

❼ MEMORY indicator
When the MEMORY switch is pressed, "MEMORY" will appear for a few seconds indicating that the memory circuit is standing by.

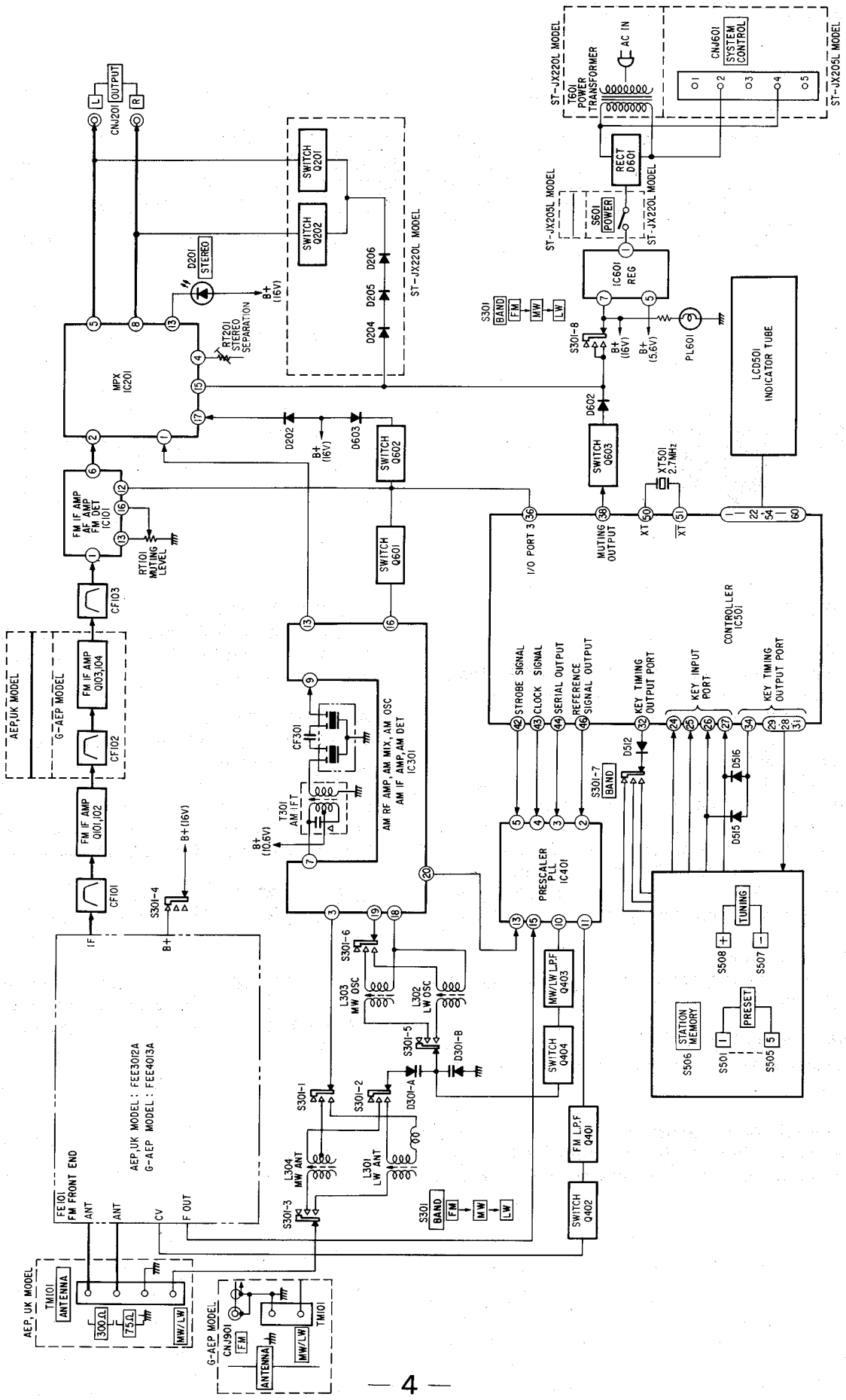
❽ TUNED indicator
This indicator illuminates when a sufficiently strong signal is tuned in.

❾ BAND selector
Selects the desired band: FM, MW or LW. The selected band will be indicated in the band/frequency-display.

❿ Station PRESET buttons
To call up a memorized station, press the appropriate button.

⓫ LAYOUT FREE AM external ferrite-bar antenna
For AM (MW/LW) reception, always connect this antenna to the AM ANTENNA terminal on the rear panel. Position the LAYOUT-FREE AM antenna for best reception.

SECTION 1
BLOCK DIAGRAM

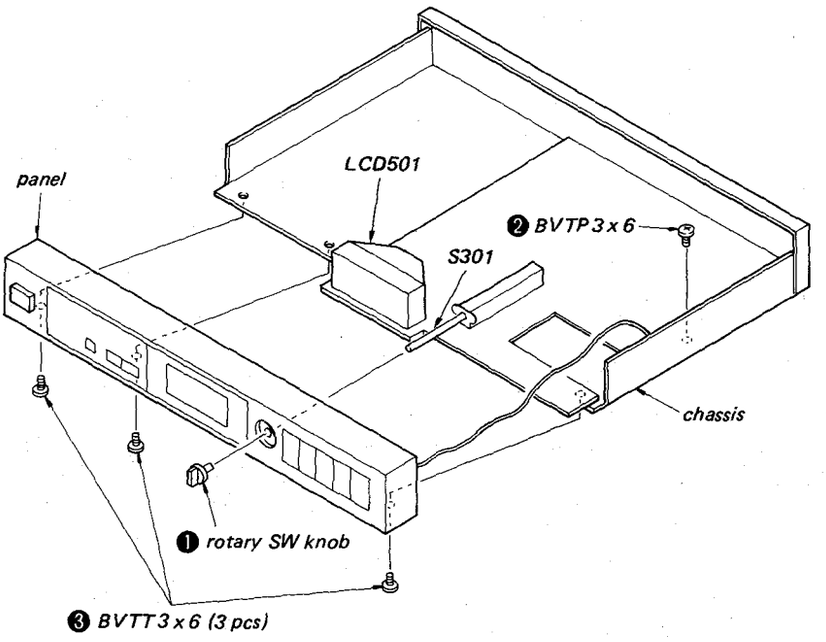


SECTION 2
DISASSEMBLY

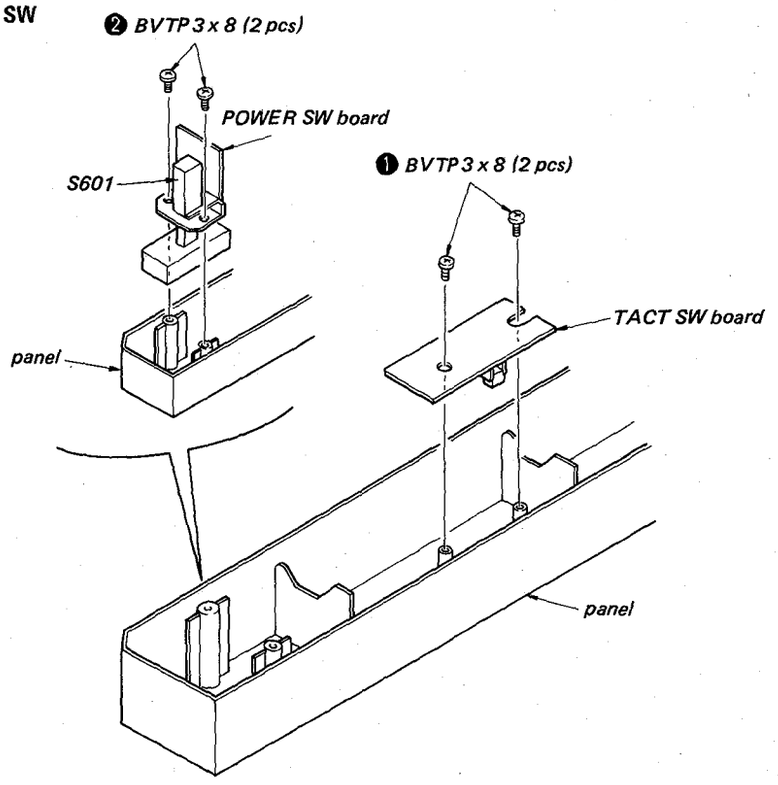
Remove the case.

- Follow the disassembly procedure in the numerical order given.

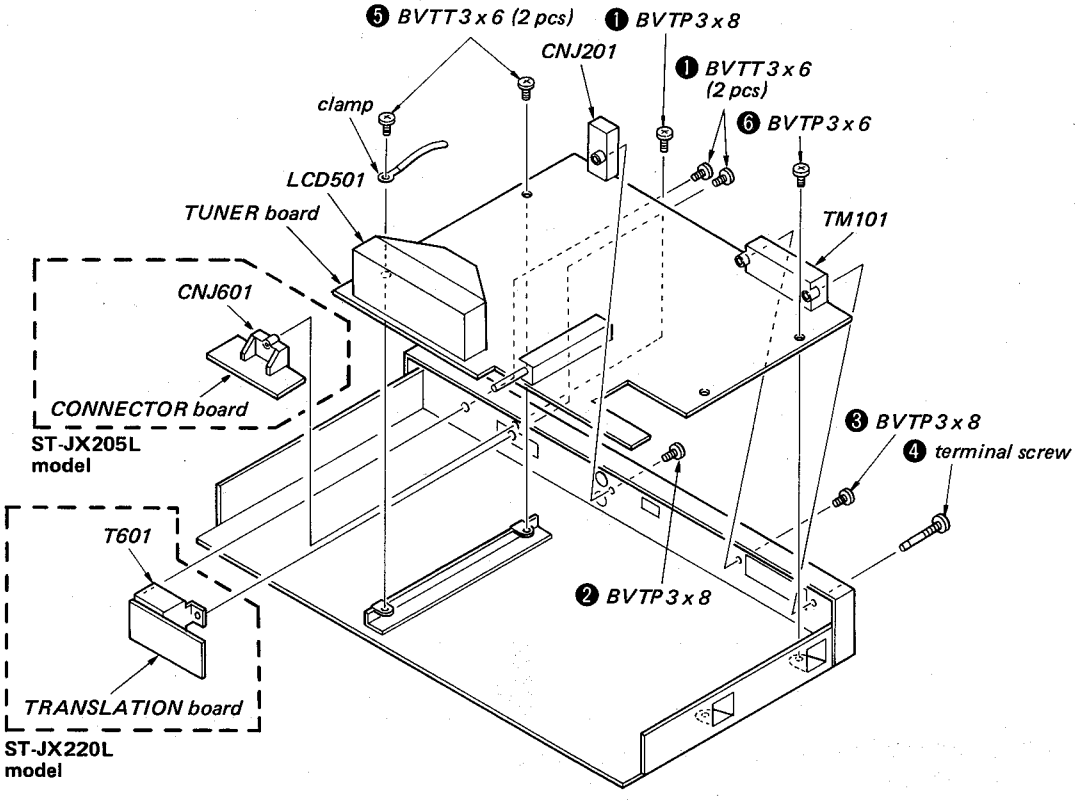
PANEL



POWER SW BOARD/TACT SW BOARD (ST-JX220L model)



TUNER BOARD/CONNECTOR BOARD/TRANSLATION BOARD

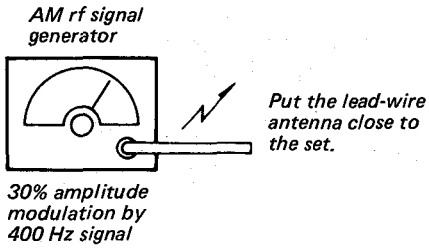


SECTION 3
ADJUSTMENTS

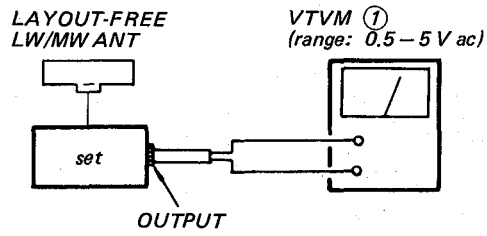
LW/MW SECTION

Setting:

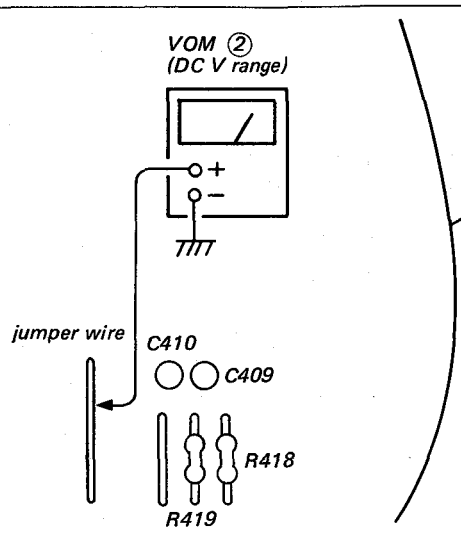
Band Selector: LW/MW



Note:
Tracking adjustment of LW section should be made earlier than that of MW section.



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.



LW/MW FREQUENCY COVERAGE ADJUSTMENT

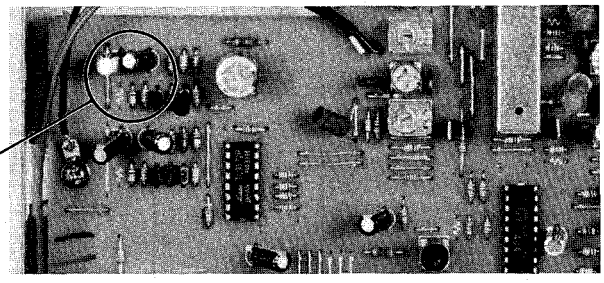
- **LW**

Frequency Display	344 kHz	153 kHz
Voltage at VOM ②	9.0±0.4 V	1.0±0.2 V
Adjustment Parts	CT302	L302

- **MW**

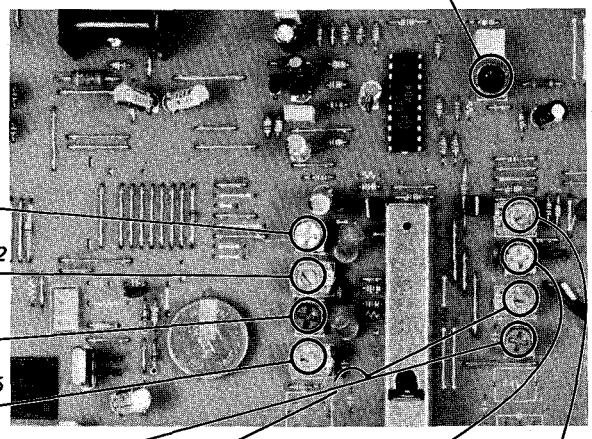
Frequency Display	1,602 kHz	531 kHz
Voltage at VOM ②	9.0±0.4 V	1.1±0.2 V
Adjustment Parts	CT305	L306

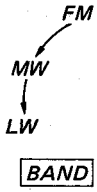
— tuner board —



AM IF ADJUSTMENT	
Adjust for a maximum reading on VTVM ①.	
450 kHz	T301

— tuner board —





L304	CT304
603 kHz	1,404 kHz
Adjust for a maximum reading on VTVM ①.	
MW TRACKING ADJUSTMENT	

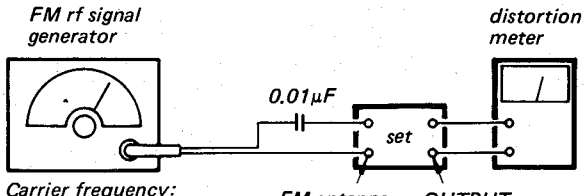
L301	CT301
170 kHz	310 kHz
Adjust for a maximum reading on VTVM ①.	
LW TRACKING ADJUSTMENT	

FM SECTION

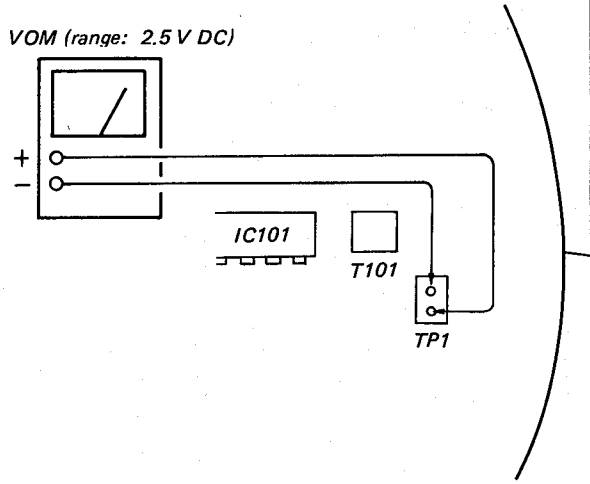
The FM front-end is carefully adjusted at the factory and is supplied as one whole block for replacement.

FM Discriminator Alignment

Procedure:

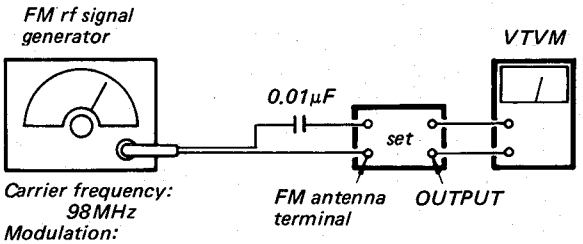


1. Tune the set to 98 MHz.
2. Connect a VOM to NULL test point (TP1) and adjust the core of T101 for 0 V DC reading on the VOM.

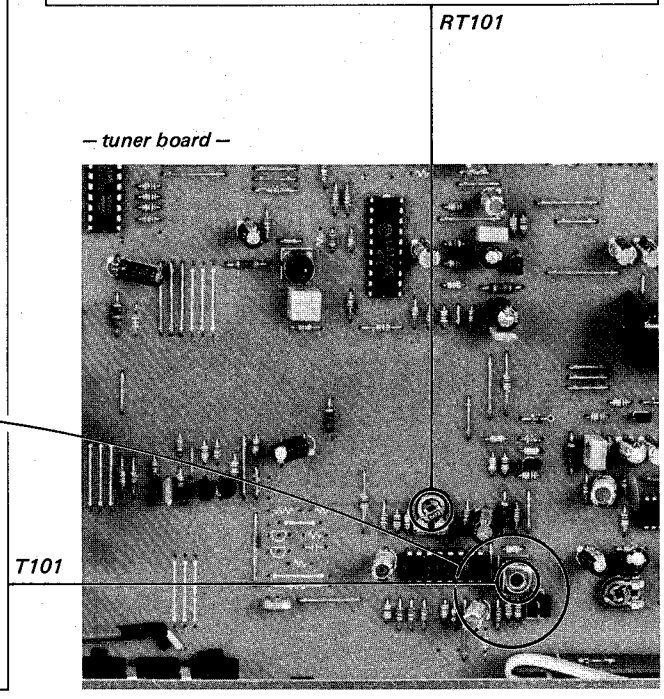


FM Muting Level Adjustment

Procedure:

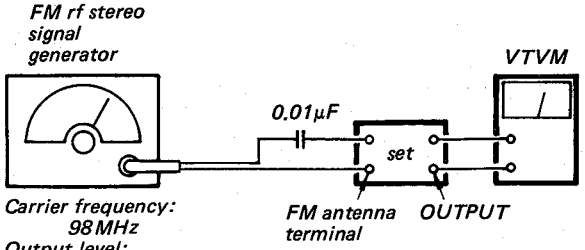


1. Tune the set to 98 MHz by pressing the TUNING switches.
2. Adjust RT101 for a 0 V reading on the VTVM.



FM Stereo Separation Adjustment

Procedure:



Modulation:
Audio (1kHz): 16.25kHz deviation (40%)
Pilot (19kHz): 7.5kHz deviation (19%)
Sub-channel: 16.25kHz deviation (40%)

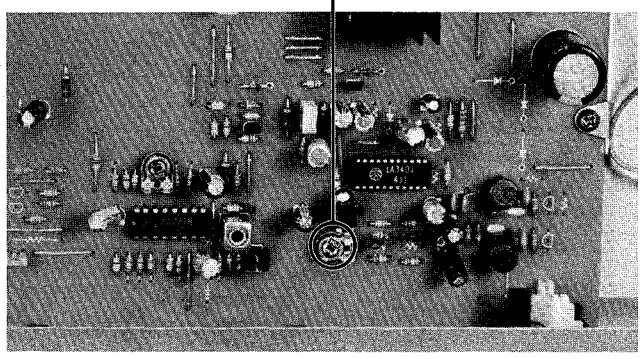
FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RT201 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RT201 for minimum reading.

L-CH Stereo separation: Ⓐ – Ⓑ
R-CH Stereo separation: Ⓒ – Ⓓ

The separations of both channels should be equal.

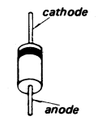
RT201

– tuner board –

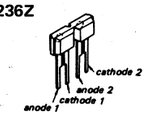


- **Semiconductor Lead Layouts**

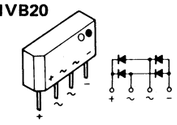
1SS202-1



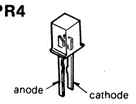
KV1236Z



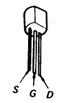
S1VB20



GL-9PR4

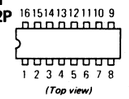


2SK246-GR3

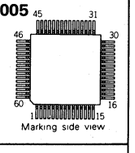


2SA1048-GR
2SC2458
2SC2669

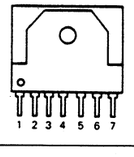
LA1231
LA1245
LA3401
TC9172P



TC9302F-005

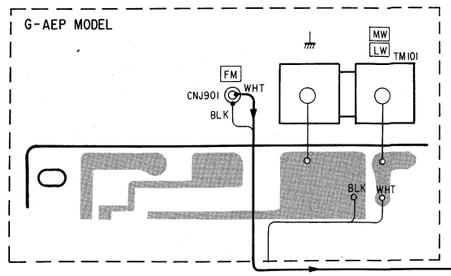


LA5665



SECTION 4
DIAGRAMS

4-1. MOUNTING DIAGRAM



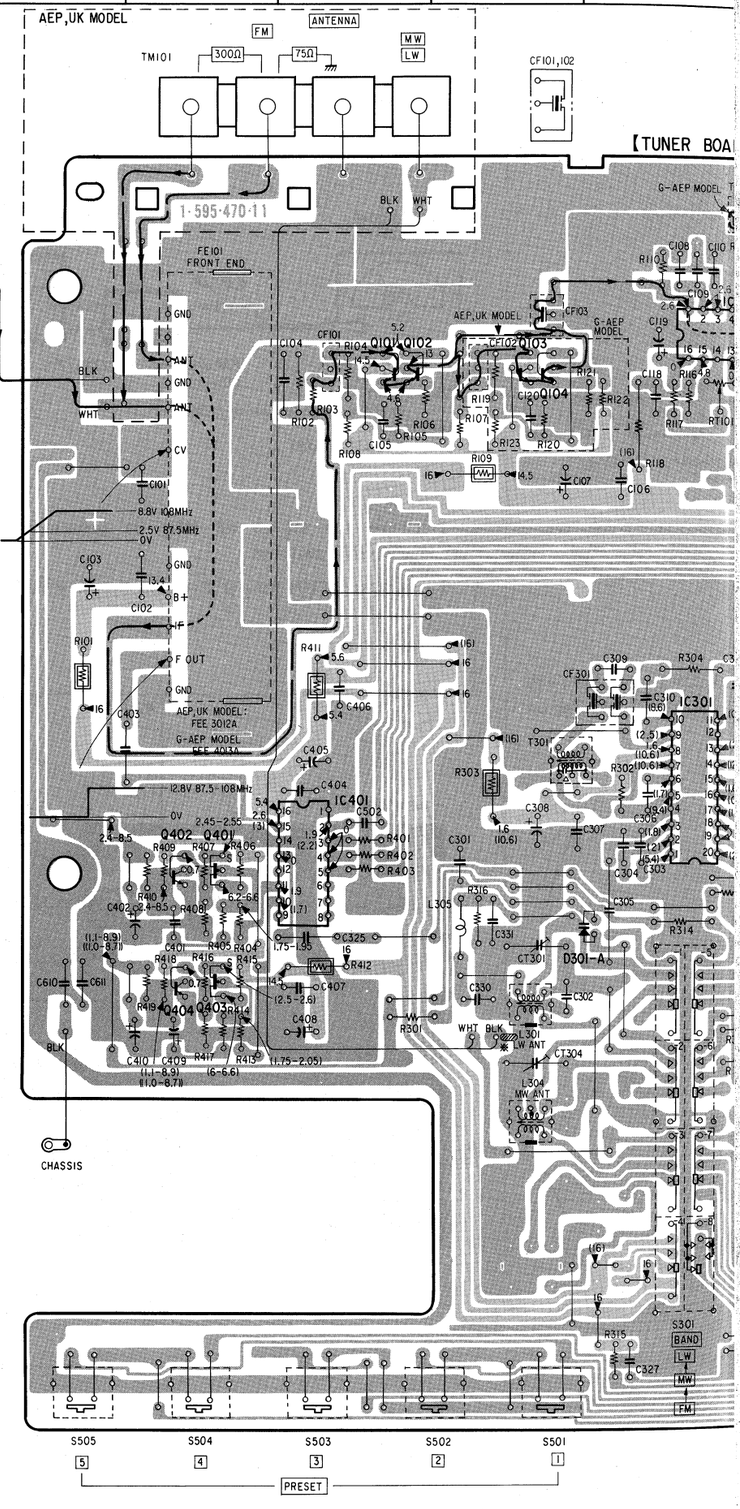
Q, IC	D
IC101	
IC201	
101	
102	103
	104
	201
	202
	202
	602
	603
	603
	602
	206
	205
	204
IC601	
	601
IC301	
IC401	
402	401
	301-A
	301-B
404	403
	513-B
	513-A
	511
512	509
	507
517	506
	508
518	505
	515
	516
	504
	503
	502
	501

Note:

- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- : indicates side identified with part number.
- ▲ : nonflammable resistor.
- : signal path
- : L-CH signal path
- : R-CH signal path
- : B+ pattern

CERAMIC FILTERS CF101, CF102, CF103		DIODE CONNECTION		FM INTERMEDIATE FREQUENCY (MHz)
COLOR MARK	CENTER FREQUENCY (MHz)	D513-A	D513-B	
BLACK	10.65	X	○	10.65
RED	10.70	X	X	10.70
WHITE	10.75	○	X	10.75

○ : CONNECTED
X : NOT CONNECTED



9 10 11 12 13 14 15 16 17 18 19 20 21

A B C D E F G H I J

ANTENNA FM 75Ω MW LW

CF101,102

【TUNER BOARD】

CNJ201 OUTPUT L R

C224 0.01 (G-AEP MODEL)

C225 0.01 (G-AEP MODEL)

BLK WHT

G-AEP MODEL T102 AEP,UK MODEL

IC101 Q101 Q102 Q103 Q104 Q201 Q202 Q601 Q602 Q603

D202 D206 D205 D204 D603 D602 D601 D301-A D301-B D512 D513-A D513-B D511 D509 D506 D507 D508 D505 D515 D516 D504 D503 D502 D501 D517 D518

IC301 IC401 IC501 IC601

BA501 LITHIUM BATTERY 3V

POWER ON 4.9 POWER OFF 2.5

XT501 2.7MHz

PL601 ON OFF 6Vp-p 4Vp-p 9.6Vp-p 20ms

S301 BAND LW MW FM

S501 S502 S503 PRESET

ST-JX220L MODEL

【POWER SWITCH BOARD】

S601 POWER

ST-JX205L MODEL

CNJ601 SYSTEM CONTROL

AC IN WHT RED

【CONNECTOR BOARD】

ST-JX220L MODEL

【TRANSLATION BOARD】

T601 POWER TRANSFORMER 19V AC YEL RED BLU BRN AC IN UK MODEL AEP,G-AEP MODEL

【SWITCH BOARD】

S506 STATION MEMORY S507 TUNING S508 D201 STEREO

0.15μS 4.3Vp-p 4.4Vp-p

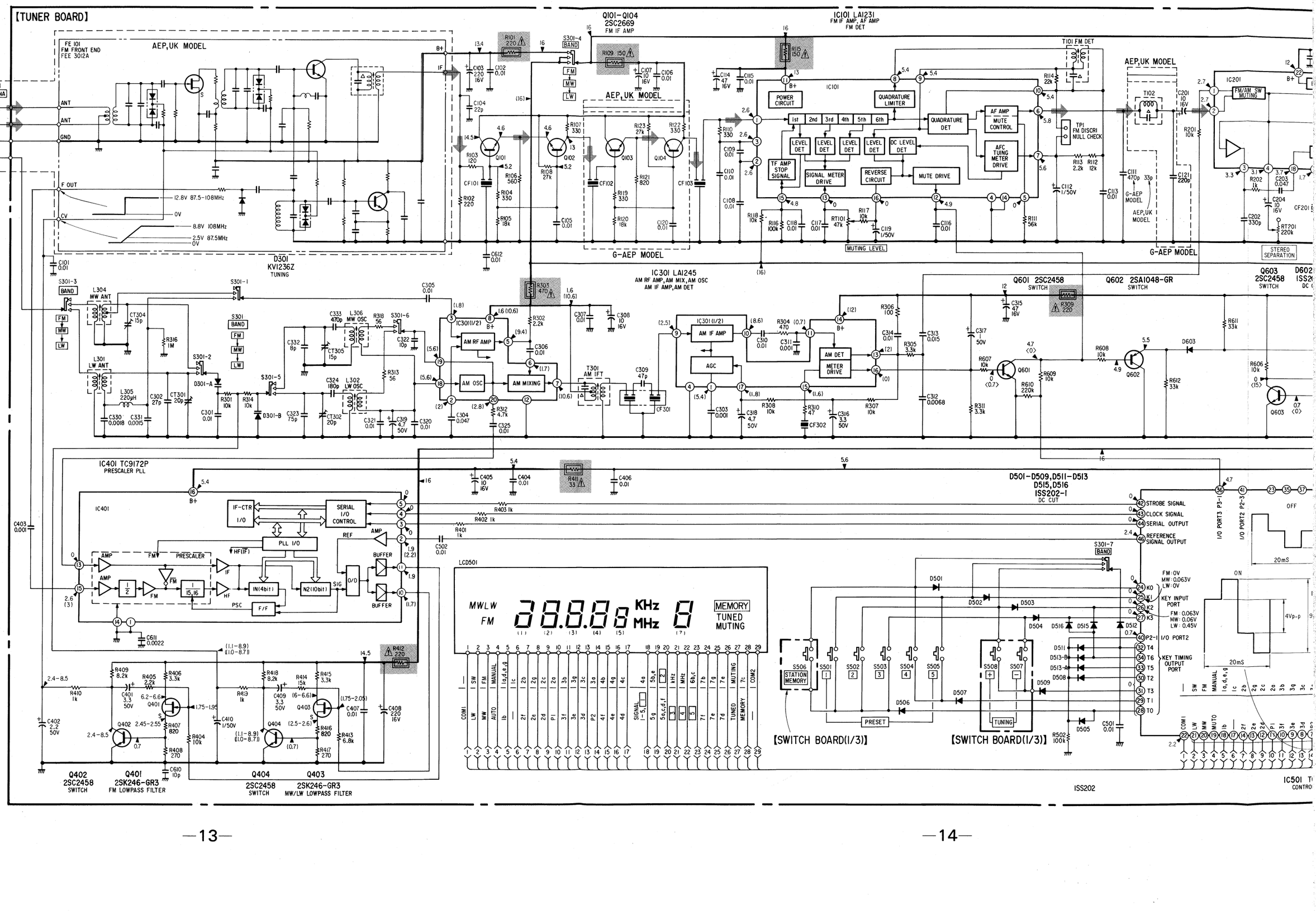
LCD501

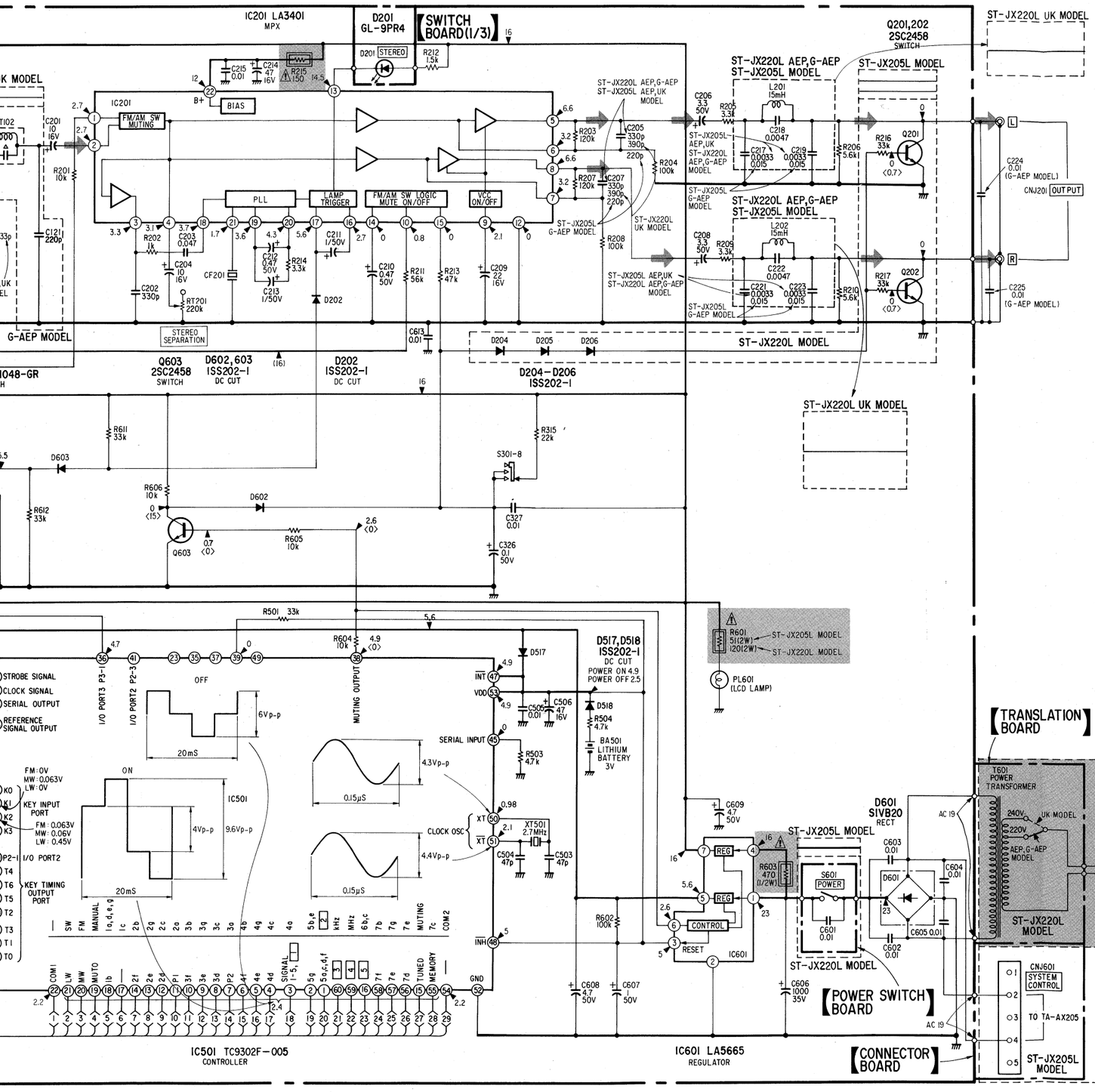
AUTO MANUAL SIGNAL 1 2 3 4 5

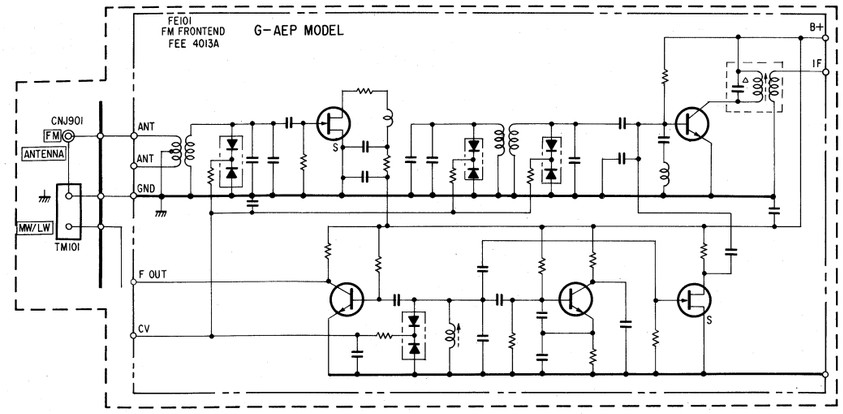
MW LW FM 28.8.8 KHz MHz MEMORY TUNED

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29

4-2. SCHEMATIC DIAGRAM







Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- : signal path.
- △ : internal component.
- : nonflammable resistor.
- : B+ bus.
- : adjustment for repair.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal (detuned) conditions with VOM (50 kΩ/V).
  no mark: FM
  ( ) : MW
  (( )) : LW
  < > : MUTE ON
- Voltage variations may be noted due to normal production tolerances.
- Switches:

Ref. No.	Switch	Position
S301	BAND	FM
S501	PRESET 1	OFF
S502	PRESET 2	OFF
S503	PRESET 3	OFF
S504	PRESET 4	OFF
S505	PRESET 5	OFF
S506	MEMORY	OFF
S507	TUNING -	OFF
S508	TUNING +	OFF
S601	POWER SWITCH	OFF

Note: Voltages are measured with a VOM (50kΩ/V).

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

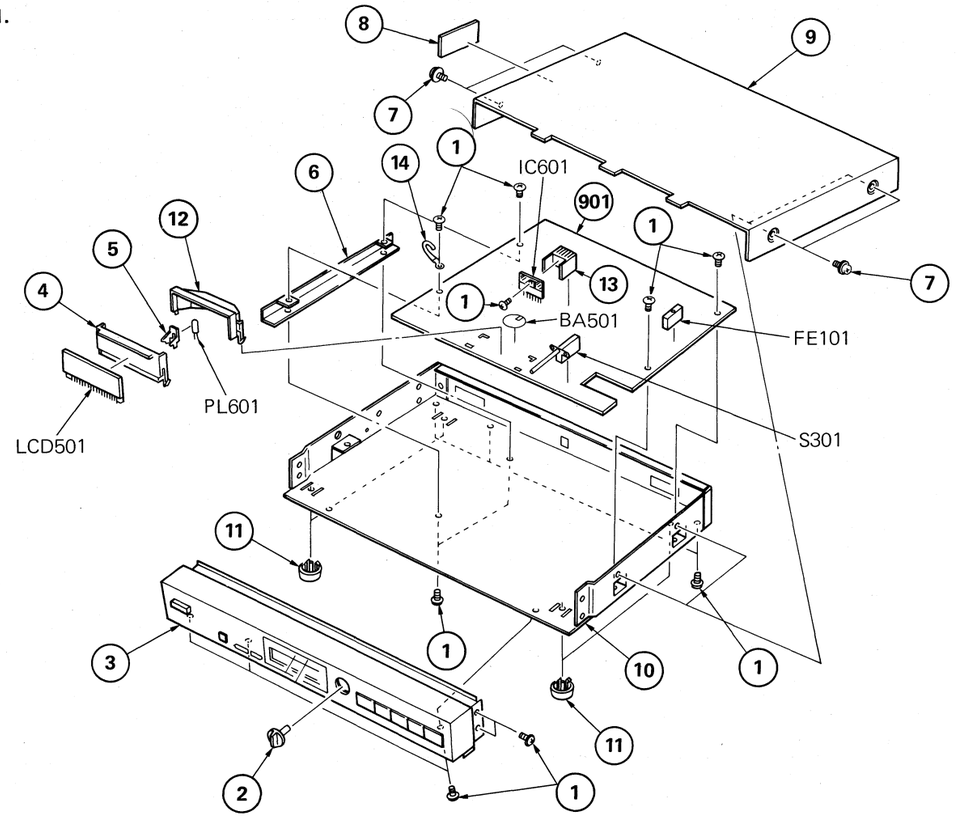
SECTION 5
EXPLODED VIEWS AND PARTS LIST

NOTE:
The mechanical parts with no reference number in the exploded views are not supplied.

- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

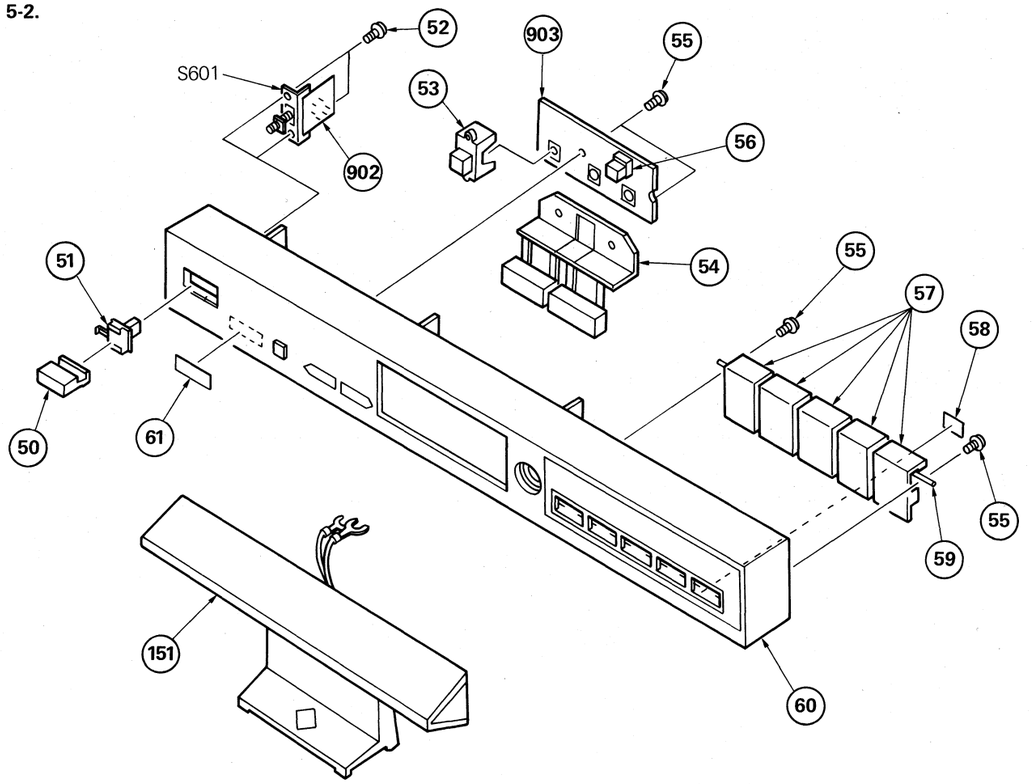
5-1.



No.	Part No.	Description	REMARKS
1	7-685-871-01	SCREW +BVTT 3X6 (S)	
2	4-884-847-11	(BLACK)....KNOB (ST), ROTARY SWITCH	
	4-884-847-61	(SILVER)...KNOB (ST), ROTARY SWITCH	
3	X-4904-514-1	(ST-JX220L:SILVER)...PANEL (A) ASSY	
	X-4904-515-1	(ST-JX220L:BLACK)....PANEL (A) ASSY	
	X-4904-509-1	(ST-JX205L:SILVER)...PANEL (B) ASSY	
	X-4904-510-1	(ST-JX205L:BLACK)....PANEL (B) ASSY	
4	*4-904-514-01	ILLUMINATOR	
5	*4-904-507-01	BLIND, LAMP	
6	*4-904-479-01	FRAME (S)	
7	4-889-321-01	(SILVER)...SCREW	
	4-889-321-11	(BLACK)....SCREW	
8	3-703-079-21	(ST-JX220L:UK)...LABEL, CAUTION (BACK)	

No.	Part No.	Description	REMARKS
9	4-904-548-01	(JAPAN MADE ONLY:SILVER)....CASE	
	4-904-548-11	(JAPAN MADE ONLY:BLACK).....CASE	
	4-904-548-21	(FRANCE MADE ONLY:SILVER)...CASE	
	4-904-548-31	(FRANCE MADE ONLY:BLACK)....CASE	
10	*4-904-481-31	(ST-JX220L:AEP)...CHASSIS	
11	X-3701-069-0	FOOT ASSY, M.F	
12	*4-904-515-01	HOUSE, LAMP	
13	*4-363-146-11	(ST-JX205L)...HEAT SINK, V OUT	
	*4-904-545-01	(ST-JX220L)...HEAT SINK	
14	3-701-748-00	(ST-JX220L)...CLAMP	
901	*A-4351-429-A	(ST-JX220L:AEP).....MOUNTED PCB, TUNER	
	*A-4351-430-A	(ST-JX220L:G-AEP)...MOUNTED PCB, TUNER	
	*A-4351-431-A	(ST-JX220L:UK).....MOUNTED PCB, TUNER	
	*A-4351-434-A	(ST-JX205L:AEP).....MOUNTED PCB, TUNER	
	*A-4351-435-A	(ST-JX205L:G-AEP)...MOUNTED PCB, TUNER	
	*A-4351-436-A	(ST-JX205L:UK).....MOUNTED PCB, TUNER	

5-2.

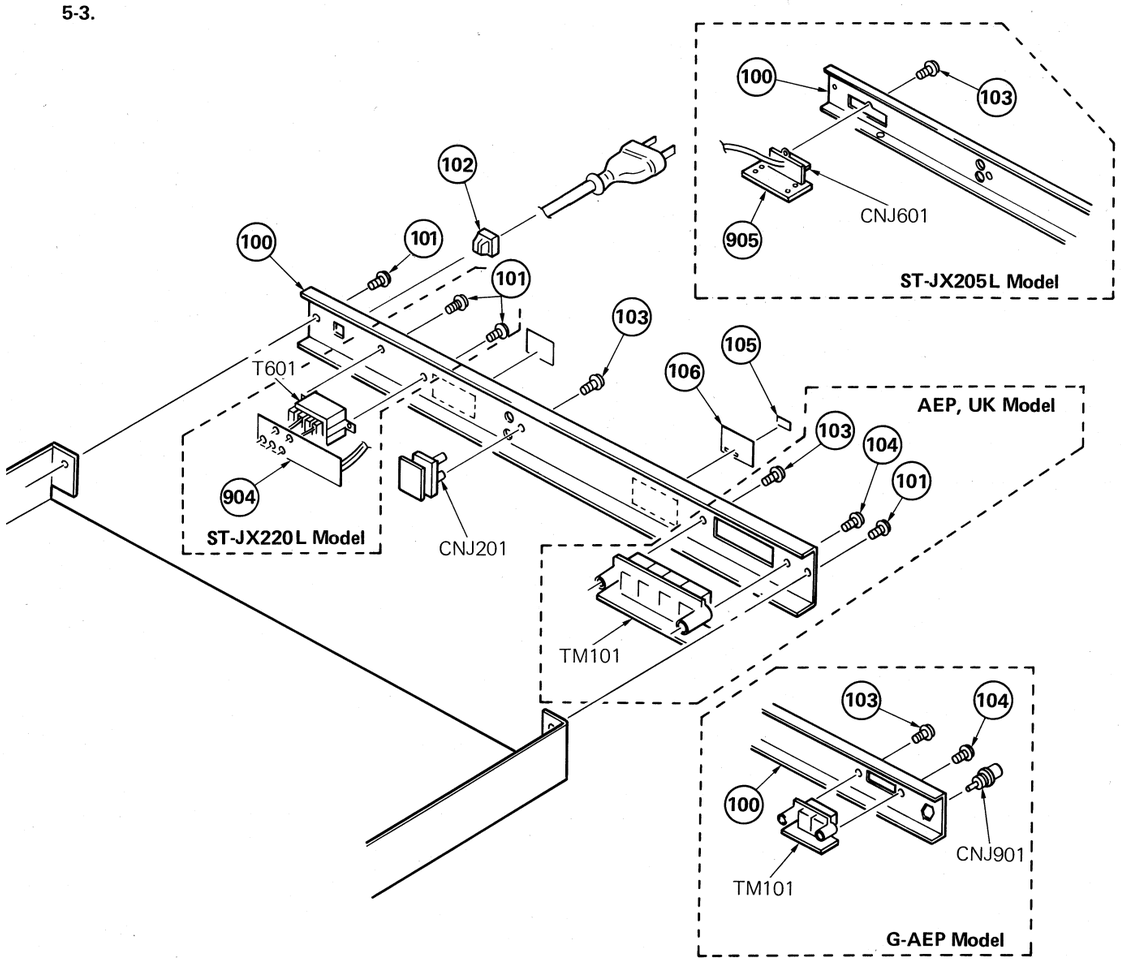


No.	Part No.	Description	REMARKS
50	3-318-911-01	(ST-JX220L:SILVER)..KNOB(POWER.L), T MOLD	
	3-318-911-11	(ST-JX220L:BLACK)...KNOB(POWER.L), T MOLD	
51	*4-902-831-01	(ST-JX220L)...JOINT (G), KNOB	
52	7-685-646-71	SCREW +BVTP 3X8 TYPE2 N-S	
53	4-904-547-01	KNOB (B), CONTORL	
54	4-904-546-01	KNOB (A), CONTORL	
55	7-685-647-14	SCREW +BVTP 3X10 TYPE2 N-S	
56	*4-904-475-01	HOLDER, LED	
57	4-904-462-21	(SILVER)...KNOB (PUSH D), T	
	4-904-462-31	(BLACK)....KNOB (PUSH D), T	

No.	Part No.	Description	REMARKS
58	3-831-441-XX	SEAL, MICROPHONE	
59	*4-904-458-11	SHAFT	
60	X-4904-514-1	(ST-JX220L:SILVER)...PANEL (A) ASSY	
	X-4904-509-1	(ST-JX205L:SILVER)...PANEL (B) ASSY	
	X-4904-510-1	(ST-JX205L:BLACK)....PANEL (B) ASSY	
	X-4904-515-1	(ST-JX220L:BLACK)....PANEL (A) ASSY	
61	3-701-690-01	(ST-JX220L:UK)...LABEL (MADE IN JAPAN)	
902	*1-615-423-11	(ST-JX220L)...PC BOARD, POWER SWITCH	
903	*1-615-422-11	PC BOARD, TACT	

ST-JX205L/JX220L

5-3.



No.	Part No.	Description	REMARKS
100	*4-904-537-11	(JAPAN MADE ONLY(ST-JX220L:AEP))	
		...PLATE, JACK	
	*4-904-552-01	(FRANCE MADE ONLY(ST-JX220L:AEP))	
		...PLATE, JACK	
	*4-904-537-21	(ST-JX220L:G-AEP))...PLATE, JACK	
	*4-904-537-51	(ST-JX205L:AEP,UK)...PLATE, JACK	
	*4-904-537-61	(ST-JX205L:G-AEP)....PLATE, JACK	
	*4-904-537-91	(ST-JX220L:UK).....PLATE, JACK	

No.	Part No.	Description	REMARKS
101	7-685-871-01	SCREW +BVTT 3X6 (S)	
102	3-703-244-00	(ST-JX220L)...BUSHING (2104), CORD	
103	7-685-646-71	SCREW +BVTP 3X8 TYPE2 N-S	
104	3-703-473-00	SCREW, TERMINAL	
105	4-302-759-00	LABEL, SERIAL NUMBER	
106	*4-904-551-01	(ST-JX220L:AEP)...LABEL, MODEL NUMBER	
904	*1-615-425-11	(ST-JX220L)...PC BOARD, TRANSLATION	
905	*1-615-424-11	(ST-JX205L)...PC BOARD, CONNECTOR	

SECTION 6
ELECTRICAL PARTS LIST

NOTE:
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC, UPD...: μPD...

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
901	*A-4351-429-A	(ST-JX220L:AEP).....MOUNTED PCB, TUNER
	*A-4351-430-A	(ST-JX220L:G-AEP)...MOUNTED PCB, TUNER
	*A-4351-431-A	(ST-JX220L:UK).....MOUNTED PCB, TUNER
	*A-4351-434-A	(ST-JX205L:AEP).....MOUNTED PCB, TUNER
	*A-4351-435-A	(ST-JX205L:G-AEP)...MOUNTED PCB, TUNER
	*A-4351-436-A	(ST-JX205L:UK).....MOUNTED PCB, TUNER
902	*1-615-423-11	(ST-JX220L)...PC BOARD, POWER SWITCH
903	*1-615-422-11	PC BOARD, TACT
904	*1-615-425-11	(ST-JX220L)...PC BOARD, TRANSLATION
905	*1-615-424-11	(ST-JX205L)...PC BOARD, CONNECTOR
906	*1-535-114-31	(ST-JX205L:G-AEP)...TERMINAL
907	*1-560-060-00	PIN, CONNECTOR 2P
908	*1-560-062-00	PIN, CONNECTOR 4P
909	⚠1-551-427-11	(ST-JX220L:AEP,G-AEP)
		...CORD, POWER, EULO PLUG
909	⚠1-556-560-00	(ST-JX220L:UK)....CORD, POWER
BA501	1-528-120-00	BATTERY, LITHIUM (CR-2025)
C101	1-162-306-31	CERAMIC 0.01MF 20% 16V
C102	1-162-306-31	CERAMIC 0.01MF 20% 16V
C103	1-123-321-00	ELECT 220MF 20% 16V
C104	1-162-207-31	CERAMIC 22PF 5% 50V
C105	1-162-306-31	CERAMIC 0.01MF 20% 16V
C106	1-162-306-31	CERAMIC 0.01MF 20% 16V
C107	1-123-356-00	ELECT 10MF 20% 16V
C108	1-162-306-31	CERAMIC 0.01MF 20% 16V
C109	1-162-306-31	CERAMIC 0.01MF 20% 16V
C110	1-162-306-31	CERAMIC 0.01MF 20% 16V
C111	1-162-211-31	(AEP,UK)...CERAMIC 33PF 5% 50V
C111	1-162-290-00	(G-AEP)....CERAMIC 470PF 10% 50V
C112	1-123-380-00	ELECT 1MF 20% 50V
C113	1-162-306-31	CERAMIC 0.01MF 20% 16V
C114	1-123-332-00	ELECT 47MF 20% 16V
C115	1-162-306-31	CERAMIC 0.01MF 20% 16V
C116	1-162-306-31	CERAMIC 0.01MF 20% 16V
C117	1-162-306-31	CERAMIC 0.01MF 20% 16V
C118	1-162-306-31	CERAMIC 0.01MF 20% 16V
C119	1-123-380-00	ELECT 1MF 20% 50V
C120	1-162-306-00	(G-AEP)....CERAMIC 0.01MF 20% 16V
C121	1-162-286-00	(G-AEP)....CERAMIC 220PF 10% 50V
C201	1-123-356-00	ELECT 10MF 20% 16V
C202	1-162-288-31	CERAMIC 330PF 10% 50V
C203	1-101-006-00	CERAMIC 0.047MF 50V
C204	1-123-356-00	ELECT 10MF 20% 16V
C205	1-162-286-00	(ST-JX205L:G-AEP)..CERAMIC 220PF 10% 50V
C205	1-162-288-31	(ST-JX205L:AEP,UK/ST-JX220L:AEP,G-AEP)
		...CERAMIC 330PF 10% 50V
C205	1-162-289-00	(ST-JX220L:UK)...CERAMIC 390PF 10% 50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description
C206	1-123-382-00	ELECT 3.3MF 20% 50V
C207	1-162-286-00	(ST-JX205L:G-AEP)..CERAMIC 220PF 10% 50V
C207	1-162-288-31	(ST-JX205L:AEP,UK/ST-JX220L:AEP,G-AEP)
		...CERAMIC 330PF 10% 50V
C207	1-162-289-00	(ST-JX220L:UK)...CERAMIC 390PF 10% 50V
C208	1-123-382-00	ELECT 3.3MF 20% 50V
C209	1-123-330-00	ELECT 22MF 20% 16V
C210	1-123-379-00	ELECT 0.47MF 20% 50V
C211	1-123-380-00	ELECT 1MF 20% 50V
C212	1-123-379-00	ELECT 0.47MF 20% 50V
C213	1-123-380-00	ELECT 1MF 20% 50V
C214	1-123-332-00	ELECT 47MF 20% 16V
C215	1-162-306-31	CERAMIC 0.01MF 20% 16V
C217	1-106-184-00	(ST-JX205L:AEP,UK/ST-JX220L:AEP,G-AEP)
		...MYLAR 0.0033MF 5% 50V
C217	1-108-240-00	(ST-JX205L:G-AEP)..MYLAR 0.015MF 10% 50V
C218	1-106-188-00	(ST-JX205L/ST-JX220L:AEP,G-AEP)
		...MYLAR 0.0047MF 5% 50V
C219	1-106-184-00	(ST-JX205L:AEP,UK/ST-JX220L:AEP,G-AEP)
		...MYLAR 0.0033MF 5% 50V
C219	1-108-240-00	(ST-JX205L:G-AEP)..MYLAR 0.015MF 10% 50V
C221	1-106-184-00	(ST-JX205L:AEP,UK/ST-JX220L:AEP,G-AEP)
		...MYLAR 0.0033MF 5% 50V
C221	1-108-240-00	(ST-JX205L:G-AEP)..MYLAR 0.015MF 10% 50V
C222	1-106-188-00	(ST-JX205L/ST-JX220L:AEP,G-AEP)
		...MYLAR 0.0047MF 5% 50V
C223	1-106-184-00	(ST-JX205L:AEP,UK/ST-JX220L:AEP,G-AEP)
		...MYLAR 0.0033MF 5% 50V
C223	1-108-240-00	(ST-JX205L:G-AEP)..MYLAR 0.015MF 10% 50V
C224	1-102-074-00	(ST-JX205L:G-AEP)..CERAMIC
		0.001MF 10% 50V
C225	1-102-074-00	(ST-JX205L:G-AEP)..CERAMIC
		0.001MF 10% 50V
C301	1-162-306-31	CERAMIC 0.01MF 20% 16V
C302	1-102-803-00	CERAMIC 27PF 5% 50V
C303	1-162-294-31	CERAMIC 0.001MF 10% 50V
C304	1-101-006-00	CERAMIC 0.047MF 50V
C305	1-162-306-31	CERAMIC 0.01MF 20% 16V
C306	1-162-306-31	CERAMIC 0.01MF 20% 16V
C307	1-162-306-31	CERAMIC 0.01MF 20% 16V
C308	1-123-356-00	ELECT 10MF 20% 16V
C309	1-162-215-31	CERAMIC 47PF 5% 50V
C310	1-162-306-31	CERAMIC 0.01MF 20% 16V
C311	1-162-294-31	CERAMIC 0.001MF 10% 50V
C312	1-162-305-31	CERAMIC 0.0068MF 20% 16V
C313	1-108-240-00	MYLAR 0.015MF 10% 50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C314	1-162-306-31	CERAMIC	0.01MF	20%	16V
C315	1-123-332-00	ELECT	47MF	20%	16V
C316	1-123-382-00	ELECT	3.3MF	20%	50V
C317	1-123-380-00	ELECT	1MF	20%	50V
C318	1-123-369-00	ELECT	4.7MF	20%	50V
C319	1-123-369-00	ELECT	4.7MF	20%	50V
C320	1-162-306-31	CERAMIC	0.01MF	20%	16V
C321	1-162-306-31	CERAMIC	0.01MF	20%	16V
C322	1-162-199-31	CERAMIC	10PF	5%	50V
C323	1-102-761-00	CERAMIC	75PF	5%	50V
C324	1-103-707-00	POLYSTYRENE	180PF	5%	50V
C325	1-162-306-31	CERAMIC	0.01MF	20%	16V
C326	1-123-607-00	ELECT	0.1MF	20%	50V
C327	1-162-306-31	CERAMIC	0.01MF	20%	16V
C330	1-102-120-00	CERAMIC	0.0018MF	10%	50V
C331	1-162-295-00	CERAMIC	0.0015MF	30%	16V
C332	1-102-261-00	CERAMIC	8PF	10%	50V
C333	1-104-069-00	POLYSTYRENE	470PF	5%	50V
C401	1-124-184-00	ELECT	3.3MF	20%	50V
C402	1-123-381-00	ELECT	2.2MF	20%	50V
C403	1-162-294-31	CERAMIC	0.001MF	10%	50V
C404	1-162-306-31	CERAMIC	0.01MF	20%	16V
C405	1-123-356-00	ELECT	10MF	20%	16V
C406	1-162-306-31	CERAMIC	0.01MF	20%	16V
C407	1-162-306-31	CERAMIC	0.01MF	20%	16V
C408	1-123-321-00	ELECT	220MF	20%	16V
C409	1-124-184-00	ELECT	3.3MF	20%	50V
C410	1-123-380-00	ELECT	1MF	20%	50V
C501	1-101-004-00	CERAMIC	0.01MF		50V
C502	1-162-306-31	CERAMIC	0.01MF	20%	16V
C503	1-102-852-00	CERAMIC	47PF	5%	50V
C504	1-102-852-00	CERAMIC	47PF	5%	50V
C505	1-162-306-31	CERAMIC	0.01MF	20%	16V
C506	1-123-332-00	ELECT	47MF	20%	16V
C601	1-101-004-00	CERAMIC	0.01MF		50V
C602	1-101-004-00	CERAMIC	0.01MF		50V
C603	1-101-004-00	CERAMIC	0.01MF		50V
C604	1-101-004-00	CERAMIC	0.01MF		50V
C605	1-101-004-00	CERAMIC	0.01MF		50V
C606	1-123-349-00	ELECT	1000MF	20%	35V
C607	1-123-380-00	ELECT	1MF	20%	50V
C608	1-123-369-00	ELECT	4.7MF	20%	50V
C609	1-123-369-00	ELECT	4.7MF	20%	50V
C610	1-162-199-31	CERAMIC	10PF	5%	50V
C611	1-162-296-00	(ST-JX205L:G-AEP)...CERAMIC	0.0022MF	30%	16V

ELECTRICAL PARTS

Ref.No.	Part No.	Description
CF101	1-527-968-71	(ST-JX205L:AEP,UK)...FILTER, CERAMIC
CF101	1-567-389-71	(ST-JX205L:G-AEP/ST-JX220L) ...FILTER, CERAMIC
CF102	1-567-389-71	(G-AEP)...FILTER, CERAMIC
CF103	1-527-968-71	(ST-JX205L:AEP,UK)...FILTER, CERAMIC
CF103	1-567-389-71	(ST-JX205L:G-AEP/ST-JX220L) ...FILTER, CERAMIC
CF201	1-567-250-11	OSCILLATOR, CERAMIC
CF301	1-527-937-00	FILTER, CERAMIC
CF302	1-527-981-00	FILTER, CERAMIC
CNJ201	1-507-807-00	JACK, PIN 2P (OUTPUT L/R)
CNJ601	1-562-067-00	(ST-JX205L)...SOCKET, CONNECTOR 5P (SYSTEM CONTROL)
CNJ901	1-561-919-00	(G-AEP).....SOCKET, CONNECTOR (FM)
CT301	1-141-171-00	CAP, TRIMMER 20P
CT302	1-141-171-00	CAP, TRIMMER 20P
CT304	1-141-180-00	CAP, TRIMMER 15P
CT305	1-141-180-00	CAP, TRIMMER 15P
D201	8-719-919-04	DIODE GL-9PR4
D202	8-719-107-94	DIODE 1SS202-1
D204	8-719-107-94	(ST-JX220L)...DIODE 1SS202-1
D205	8-719-107-94	(ST-JX220L)...DIODE 1SS202-1
D206	8-719-107-94	(ST-JX220L)...DIODE 1SS202-1
D301	8-719-902-79	DIODE KV1236Z
D501	8-719-107-94	DIODE 1SS202-1
D502	8-719-107-94	DIODE 1SS202-1
D503	8-719-107-94	DIODE 1SS202-1
D504	8-719-107-94	DIODE 1SS202-1
D505	8-719-107-94	DIODE 1SS202-1
D507	8-719-107-94	DIODE 1SS202-1
D512	8-719-107-94	DIODE 1SS202-1
D513	8-719-107-94	DIODE 1SS202-1
D515	8-719-107-94	DIODE 1SS202-1
D516	8-719-107-94	DIODE 1SS202-1
D517	8-719-107-94	DIODE 1SS202-1
D518	8-719-107-94	DIODE 1SS202-1
D601	8-719-511-20	DIODE S1VB20
D602	8-719-107-94	DIODE 1SS202-1
D603	8-719-107-94	DIODE 1SS202-1
FE101	1-463-609-11	(AEP,UK)...FRONT END, FM (FEE-3012A)
FE101	1-463-611-11	(G-AEP)....FRONT END, FM (FEE-4013A)
IC101	8-759-812-31	IC LA1231
IC201	8-759-801-80	IC LA3401
IC301	8-759-812-45	IC LA1245
IC401	8-759-202-63	IC TC9172P
IC501	8-759-204-24	IC TC9302F-005
IC601	8-759-801-79	IC LA5665

ELECTRICAL PARTS

Ref.No.	Part No.	Description
L201	1-408-259-00	(ST-JX205L:G-AEP)..MICRO INDUCTOR 15MMH
L201	1-408-926-00	(ST-JX205L:AEP,UK/ST-JX220L:AEP,G-AEP) ...MICRO INDUCTOR 15MMH
L202	1-408-259-00	(ST-JX205L:G-AEP)..MICRO INDUCTOR 15MMH
L202	1-408-926-00	(ST-JX205L:AEP,UK/ST-JX220L:AEP,G-AEP) ...MICRO INDUCTOR 15MMH
L301	1-402-071-11	COIL (ANT)
L302	1-406-090-11	COIL (OSC)
L304	1-402-069-11	COIL (ANT)
L305	1-408-579-00	(ST-JX205L/ST-JX220L:AEP,G-AEP) ...MICRO INDUCTOR 220UH
L306	1-406-089-11	COIL (OSC)
LCD501	1-806-874-11	INDICATOR, L-CRYSTAL LT5056
PL601	1-518-511-00	LAMP, PILOT
Q101	8-729-266-93	TRANSISTOR 2SC2669
Q102	8-729-266-93	TRANSISTOR 2SC2669
Q103	8-729-266-93	(G-AEP)....TRANSISTOR 2SC2669
Q104	8-729-266-93	(G-AEP).....TRANSISTOR 2SC2669
Q201	8-729-245-83	(ST-JX220L)...TRANSISTOR 2SC2458
Q202	8-729-245-83	(ST-JX220L)...TRANSISTOR 2SC2458
Q401	8-729-202-67	TRANSISTOR 2SK246-GR3
Q402	8-729-245-83	TRANSISTOR 2SC2458
Q403	8-729-202-67	TRANSISTOR 2SK246-GR3
Q404	8-729-245-83	TRANSISTOR 2SC2458
Q601	8-729-245-83	TRANSISTOR 2SC2458
Q602	8-729-205-83	TRANSISTOR 2SA1048-GR
Q603	8-729-245-83	TRANSISTOR 2SC2458
R101 ⚠	1-247-115-00	CARBON 220 5% 1/4W F
R102	1-247-815-00	CARBON 220 5% 1/6W
R103	1-247-809-00	CARBON 120 5% 1/6W
R104	1-247-819-00	CARBON 330 5% 1/6W
R105	1-247-861-00	CARBON 18K 5% 1/6W
R106	1-247-825-00	CARBON 560 5% 1/6W
R107	1-247-819-00	CARBON 330 5% 1/6W
R108	1-247-865-00	CARBON 27K 5% 1/6W
R109 ⚠	1-247-111-00	CARBON 150 5% 1/4W F
R110	1-247-819-00	CARBON 330 5% 1/6W
R111	1-247-873-00	CARBON 56K 5% 1/6W
R112	1-247-857-00	CARBON 12K 5% 1/6W
R113	1-247-839-00	CARBON 2.2K 5% 1/6W
R114	1-247-863-00	CARBON 22K 5% 1/6W
R115 ⚠	1-247-111-00	CARBON 150 5% 1/4W F
R116	1-247-879-00	CARBON 100K 5% 1/6W
R117	1-247-855-00	CARBON 10K 5% 1/6W
R118	1-247-855-00	CARBON 10K 5% 1/6W
R119	1-247-819-00	(G-AEP)...CARBON 330 5% 1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R120	1-247-861-00	(G-AEP)...CARBON 18K 5% 1/6W
R121	1-247-829-00	(G-AEP)...CARBON 820 5% 1/6W
R122	1-247-819-00	(G-AEP)...CARBON 330 5% 1/6W
R123	1-247-865-00	(G-AEP)...CARBON 27K 5% 1/6W
R201	1-247-855-00	CARBON 10K 5% 1/6W
R202	1-247-831-00	CARBON 1K 5% 1/6W
R203	1-247-881-00	CARBON 120K 5% 1/6W
R204	1-247-879-00	CARBON 100K 5% 1/6W
R205	1-247-843-00	CARBON 3.3K 5% 1/6W
R206	1-247-849-00	CARBON 5.6K 5% 1/6W
R207	1-247-881-00	CARBON 120K 5% 1/6W
R208	1-247-879-00	CARBON 100K 5% 1/6W
R209	1-247-843-00	CARBON 3.3K 5% 1/6W
R210	1-247-849-00	CARBON 5.6K 5% 1/6W
R211	1-247-873-00	CARBON 56K 5% 1/6W
R212	1-247-135-00	CARBON 1.5K 5% 1/4W
R213	1-247-871-00	CARBON 47K 5% 1/6W
R214	1-247-843-00	CARBON 3.3K 5% 1/6W
R215 ⚠	1-247-111-00	CARBON 150 5% 1/4W F
R216	1-247-867-00	(ST-JX220L)...CARBON 33K 5% 1/6W
R217	1-247-867-00	(ST-JX220L)...CARBON 33K 5% 1/6W
R301	1-247-855-00	CARBON 10K 5% 1/6W
R302	1-247-839-00	CARBON 2.2K 5% 1/6W
R303 ⚠	1-247-123-00	CARBON 470 5% 1/4W F
R304	1-247-823-00	CARBON 470 5% 1/6W
R305	1-247-843-00	CARBON 3.3K 5% 1/6W
R306	1-247-807-00	CARBON 100 5% 1/6W
R307	1-247-855-00	CARBON 10K 5% 1/6W
R308	1-247-855-00	CARBON 10K 5% 1/6W
R309 ⚠	1-247-115-00	CARBON 220 5% 1/4W F
R310	1-247-799-00	CARBON 47 5% 1/6W
R311	1-247-843-00	CARBON 3.3K 5% 1/6W
R312	1-247-847-00	CARBON 4.7K 5% 1/6W
R313	1-247-801-00	CARBON 56 5% 1/6W
R314	1-247-855-00	CARBON 10K 5% 1/6W
R315	1-247-863-00	CARBON 22K 5% 1/6W
R316	1-247-903-00	CARBON 1M 5% 1/6W
R318	1-247-801-00	CARBON 56 5% 1/6W
R401	1-247-831-00	CARBON 1K 5% 1/6W
R402	1-247-831-00	CARBON 1K 5% 1/6W
R403	1-247-831-00	CARBON 1K 5% 1/6W
R404	1-247-855-00	CARBON 10K 5% 1/6W
R405	1-247-839-00	CARBON 2.2K 5% 1/6W
R406	1-247-843-00	CARBON 3.3K 5% 1/6W
R407	1-247-829-00	CARBON 820 5% 1/6W

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ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R408	1-247-817-00	CARBON	270	5%	1/6W
R409	1-247-853-00	CARBON	8.2K	5%	1/6W
R410	1-247-831-00	CARBON	1K	5%	1/6W
R411 ⚠	1-247-095-00	CARBON	33	5%	1/4W F
R412 ⚠	1-247-115-00	CARBON	220	5%	1/4W F
R413	1-247-851-00	CARBON	6.8K	5%	1/6W
R414	1-247-859-00	CARBON	15K	5%	1/6W
R415	1-247-843-00	CARBON	3.3K	5%	1/6W
R416	1-247-829-00	CARBON	820	5%	1/6W
R417	1-247-817-00	CARBON	270	5%	1/6W
R418	1-247-853-00	CARBON	8.2K	5%	1/6W
R419	1-247-831-00	CARBON	1K	5%	1/6W
R501	1-247-867-00	CARBON	33K	5%	1/6W
R502	1-247-879-00	CARBON	100K	5%	1/6W
R503	1-247-847-00	CARBON	4.7K	5%	1/6W
R504	1-247-847-00	CARBON	4.7K	5%	1/6W
R601 ⚠	1-206-642-11	(ST-JX220L)...METAL OXIDE	120	5%	2W F
R601 ⚠	1-206-480-00	(ST-JX205L)...METAL OXIDE	51	5%	2W F
R602	1-247-879-00	CARBON	100K	5%	1/6W
R603 ⚠	1-247-232-00	CARBON	470	5%	1/2W F
R604	1-247-855-00	CARBON	10K	5%	1/6W
R605	1-247-855-00	CARBON	10K	5%	1/6W
R606	1-247-855-00	CARBON	10K	5%	1/6W
R607	1-247-855-00	CARBON	10K	5%	1/6W
R608	1-247-855-00	CARBON	10K	5%	1/6W
R609	1-247-855-00	CARBON	10K	5%	1/6W
R610	1-247-887-00	CARBON	220K	5%	1/6W
R611	1-247-867-00	CARBON	33K	5%	1/6W
R612	1-247-867-00	CARBON	33K	5%	1/6W
RT101	1-228-996-00	RES, ADJ, CARBON 47K			
RT201	1-228-998-00	RES, ADJ, CARBON 220K			
S301	1-554-897-11	SWITCH, ROTARY SLIDE (BAND)(FM/MW/LW)			
S501	1-553-976-00	SWITCH, PUSH (PRESET 1)			
S502	1-553-976-00	SWITCH, PUSH (PRESET 2)			
S503	1-553-976-00	SWITCH, PUSH (PRESET 3)			
S504	1-553-976-00	SWITCH, PUSH (PRESET 4)			
S505	1-553-976-00	SWITCH, PUSH (PRESET 5)			
S506	1-553-739-21	SWITCH, KEY BOARD (STATION MEMORY)			
S507	1-553-739-21	SWITCH, KEY BOARD (TUNING -)			
S508	1-553-739-21	SWITCH, KEY BOARD (TUNING +)			
S601	1-570-103-11	(ST-JX220L)..SWITCH, PUSH(1 KEY)(POWER)			
T101	1-404-419-00	COIL, DISCRIMINATOR			
T102	1-235-126-00	(G-AEP)...ENCAPSULATED COMPONENT			
T301	1-404-535-11	COIL (WITH IFT)			
T601	1-448-033-11	(ST-JX220L)...TRANSFORMER, POWER			
TM101	1-536-707-00	(G-AEP)...TERMINAL BOARD, PUSH 2P(MW/LW)			
TM101	1-536-708-00	(AEP,UK)..TERMINAL BOARD, PUSH 4P (ANTENNA)(FM/MW/LW)			
XT501	1-567-125-00	VIBRATOR, CRYSTAL			

ACCESSORY & PACKING MATERIAL

No.	Part No.	Description
151	1-402-082-11	(ST-JX220L)...ANTENNA, FERRITE-ROD(LW/MW/SW)
152	1-501-224-00	(ST-JX220L:AEP,UK)...ANTENNA, FEEDER
153	8-915-122-90	(ST-JX220L)...CORD, CONNECTION
154	3-701-630-00	(ST-JX220L)...BAG, POLYETHYLENE
155	3-760-339-11	(ST-JX220L:AEP,UK)...MANUAL, INSTRUCTION
156	3-760-339-41	(JAPAN MADE ONLY(ST-JX220L:AEP)) ....MANUAL, INSTRUCTION
157	3-760-339-91	(FRANCE MADE ONLY(ST-JX220L:AEP)) ...MANUAL, INSTRUCTION
158	4-879-798-00	SHEET, PROTECTION
159	4-881-536-00	(ST-JX220L:AEP)...CUSHION (UPPER)
160	4-903-240-01	(ST-JX220L:AEP)...CUSHION, ANTENNA
161	4-903-250-01	(ST-JX220L:AEP)...CUSHION (LOWER)
162	4-904-526-01	(ST-JX220L)...CUSHION, LOWER
163	4-904-527-01	(ST-JX220L)...CUSHION (LEFT), UPPER
164	4-904-528-01	(ST-JX220L)...CUSHION (RIGHT), UPPER
165	4-904-542-01	(ST-JX220L)....SPACER
166	4-904-543-01	(ST-JX220L)....INDIVIDUAL CARTON
167	4-904-549-01	(FRANCE MADE ONLY(ST-JX220:AEP)) ....INDIVIDUAL CARTON

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